

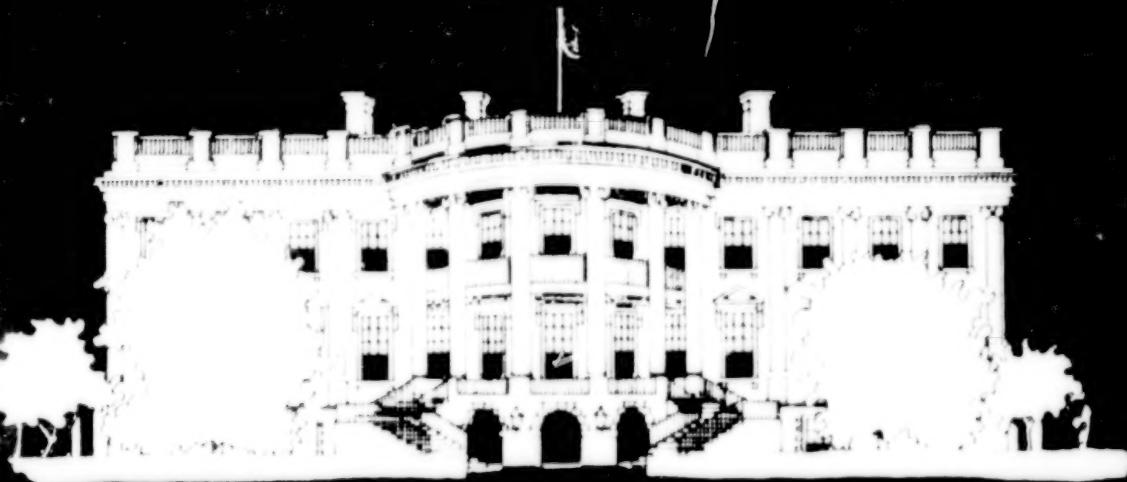
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**NATIONAL PRODUCTIVITY ADVISORY  
COMMITTEE**

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**Restoring Productivity Growth  
in America  
A Challenge for the 1980's**



A Report to  
The President of the United States  
and The Secretary of the Treasury

December 1983

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**NATIONAL PRODUCTIVITY ADVISORY  
COMMITTEE**

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## NATIONAL PRODUCTIVITY ADVISORY COMMITTEE

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December 30, 1983

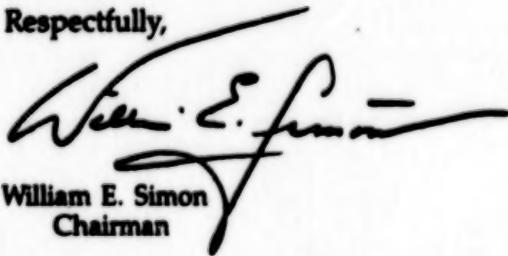
**TO THE PRESIDENT OF THE UNITED STATES  
AND THE SECRETARY OF THE TREASURY**

I have the great pleasure to transmit to you the final report of the National Productivity Advisory Committee.

The members of the Committee and I have appreciated the opportunity to serve the nation through our work on your National Productivity Advisory Committee and to have seen the fruits of our labor reflected in the public policy initiatives you have advanced during the past eighteen months, since you received our first set of recommendations.

We commend you for the commitment you have made to improving productivity in America and encourage you to be bold in pursuing the actions that are necessary to provide a new standard of living for all Americans through higher productivity.

Respectfully,

A handwritten signature in black ink, appearing to read "William E. Simon".

William E. Simon  
Chairman

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## INTRODUCTION

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*The challenge of greater productivity growth is of supreme importance to America's future.\**

Productivity is the relationship of goods and services produced in the economy compared to the resources used to produce them. This ratio reflects the efficiency of the underlying factors of production: labor, capital, natural resources and technology, and also the efficiency of the combination of these factors. Increasing this ratio of output to input means providing a greater volume of goods and services while using relatively less resources to do so.

Rising productivity provides rising real incomes that can be used in a variety of ways: to compensate the factors of production that contributed to greater productivity; to reduce prices in meeting competition in world markets, thereby preserving jobs and pay; or to allocate resources toward achieving national goals through public programs and expenditures. Without productivity growth there is increased pressure to redistribute incomes, taking from one in order to give to another. With productivity increases, the task is to distribute new rewards.

Productivity is generally measured in one of two ways. It is expressed as a ratio of output to a composite of all inputs used in producing the good or service. Alternately, it is expressed as a ratio of output to a single factor of production, such as labor or capital. The measure used most frequently is a measure of output to labor time spent in production of goods or services. Output per labor hour is the measure used most widely.

Use of labor productivity measures, however, does not mean that the labor factor is necessarily responsible for the measured productivity growth. It is merely a reflection of total change in output compared to changes in labor inputs, but the change reflects the contribution of capital, materials, and technology as well as labor and other human skills.

From 1947 to 1965, productivity, measured as output per hour of all persons in the business economy, grew at an average annual rate of 3.4 percent. After 1965 the productivity growth rate began to decline and averaged 2.4 percent from 1965 to 1973 and 0.9 percent from 1973 to 1982. In 1979 and 1980 the productivity growth rate was negative, and productivity actually declined. Recently the productivity growth rate has risen, as it typically does when the economy emerges from a

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\* President Ronald Reagan, at the White House Conference on Productivity, September 22, 1983.

recession. It averaged 5.7 percent during the first six months of 1983. While this reverses the downward trend, it is a cyclical movement. Whether the growth rate of productivity remains positive and continues to increase will depend on the ability of government and the private sector to address the many factors that have contributed to the decline in productivity and productivity growth.

Productivity is important to the American economy and to our society because over the long term it is the sole source for raising real incomes and thus our standard of living. Without higher productivity, real incomes cannot rise and growing social needs cannot be met except at the expense of other areas. Through reducing unit costs of goods and services, productivity also contributes to lower inflation and to building and maintaining a competitive society. In order to compete effectively in world markets, American enterprises must continue to seek ways of improving their productivity. Likewise, government has an obligation, at all levels, to be productive and efficient in its own operations and to maintain a stable economic environment that is conducive to investment in capital, human resources, technology and raw materials.

The declining growth in productivity is not the result of a single problem in the economy, but reflects the combination of many factors. Through ignorance and neglect of the characteristics of a productive society, America has denied itself the rewards of greater growth in productivity.

A productive society is one that rewards saving and investment, innovation and creativity. It builds, educates, trains and invests for the future. It does not tax and spend the product of today's labor without considering tomorrow's needs. It is a society that lives within its means rather than shifting greater burdens forward to future generations. It is a society that nourishes the spirit of adventure and entrepreneurship and rewards enterprise. It is not risk averse, living in the fear of failure that paralyzes progress.

The principal institutions of a productive society share common objectives and work together toward the achievement of these objectives. Government and business, employers and employees do not view one another as adversaries. Instead they recognize the value and contribution that each can make towards advancing the common good. A productive society recognizes the value of market forces in allocating resources between current and future production and among alternatives for current production, but it also provides for mitigating the costs of change for particular individuals' communities. Finally, it recognizes the sovereignty of consumers and the need for quality in producing goods and services.

The economic program announced by the President in 1981 was designed to rebuild incentives and provide an environment for

sustained non-inflationary growth. The program was based on four fundamental components: reducing the growth in federal spending; providing incentive-based marginal rate reductions in taxes to restore incentives for working, saving, and investing; reducing burdensome and unnecessary federal regulations and improving the efficiency of those that are imperative; and providing a stable inflation and interest rate environment through a steady, moderate growth in the money supply.

On November 10, 1981, the President also created the National Productivity Advisory Committee to advise him and the Secretary of the Treasury, through the Cabinet Council on Economic Affairs, on what further actions the government might take to achieve higher levels of productivity in the United States. The Committee elected to concentrate its efforts in identifying productivity improving initiatives that could be accomplished in the near term. In addition, the Committee's mandate did not extend to what action the private sector could take to strengthen productivity growth. Later, in guiding the White House Conference on Productivity, the Committee focused attention on what the private sector has been doing to improve productivity, what further measures it could take and what longer term initiatives should be considered as well.

Recognizing the multitude of factors affecting productivity growth, the Committee focused its work in four key areas where action could be taken to improve productivity: Capital Investment; Human Resources; the Role of Government in the Economy; and Research, Development and Technological Innovation. Specific recommendations were developed in each of these policy areas.

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## CAPITAL INVESTMENT

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Improving capital investment will depend most importantly on improving the economic climate for such investment. The Committee acknowledges and commends the President's economic program as a major step forward in this effort. The Committee recommends additional specific measures for improving productivity in the following areas: reducing federal deficits; developing an alternative to the current system of income taxation to eliminate the double taxation of corporate dividends and to lower significantly corporate and individual marginal income tax rates; preserving incentives and removing impediments, in the income tax system, to specific investment and individual savings, thereby increasing the pool of funds available for investment; and addressing specific savings disincentives embodied in the social security system.

### Federal Budget Deficits

#### RECOMMENDATION 1

*Reduce the federal budget deficit significantly now by reducing federal spending first and then by raising revenues in ways that will least impair the incentives for work, savings and investment.*

In recent years the rate of growth of federal spending and the size of the federal budget deficit have enlarged significantly the share of funds in the financial markets preempted by the federal government. Generating the investment necessary to restore high rates of productivity growth requires reducing prospective budget deficits and federal borrowing needs. The greater the portion of gross private saving that must be allocated to financing the federal deficit, the less that will be left to the private sector for new plant and equipment, housing, and inventories.

Deficits projected for future fiscal years, based on reasonably optimistic economic assumptions and a current services budget, will average around \$200 billion per year. While opinions differ over the economic impact of these deficits, the deficits reflect a failure by government to match its spending demands and revenue resources. Until the government can put its fiscal house in order, it will continue to preempt productive private spending and investment. Growth in the economy, in productivity, output, employment and incomes, depends on increasing the amount and improving the quality of

capital with which our labor force works. If we continue to devote significant amounts of our savings to financing consumption and government spending instead of more productive capital formation, it will be difficult, if not impossible, to achieve increasing productivity growth rates.

Reductions in projected spending levels are possible and appropriate in virtually all areas of federal activity. Raising revenues to make up a budgetary shortfall should occur only after all spending reductions have been exhausted. Where spending increases are necessary they should be accomplished in a way that least impairs incentives for saving, investment and personal initiatives.

## Fundamental Tax Reform

### RECOMMENDATION 2

*Replace the current income tax system with a system that would tax all incomes just once at rates not exceeding some low fixed rate and provide for immediate expensing of all investment expenditures.*

The tax system has been a continuing impediment to capital formation and productivity growth. Eliminating high tax rates on individuals and businesses is essential to restoring adequate productivity growth. Among the specific tax reform proposals discussed, the Committee believes the most important elements of reform are eliminating the double taxation of corporate dividends, substantially reducing marginal tax rates, and providing a single comprehensive incentive for business investment. Overall, it believes that any reform should seek three goals: greater simplicity, equity, and economic efficiency.

The current system of taxation impedes productivity growth through high marginal rates and disincentives for productive business behavior. The 1981 Economic Recovery Tax Act (ERTA) provided much needed relief by reducing top marginal income rates from 70 percent to 50 percent for individuals, but it did not alter the 46 percent corporate rate nor the 50 percent maximum tax rate on non-wage and salary income.

A proposal developed by one of the members of the Advisory Committee, Professor Robert Hall, and his colleague, Alvin Rabushka, is a compensation and consumption tax that would be administered as a variant of a value added tax (VAT). It would replace the current corporate and individual income tax system and tax all income at its source at a flat rate of 19 percent by eliminating deductions and other sources of leakage in the tax system. Individuals would file brief

returns on wage and salary income. According to estimates made by Professors Hall and Rabushka this proposal would raise enough revenue to close the federal deficit by fiscal year 1985, assuming immediate enactment and no transition exceptions.

Under the Hall-Rabushka and other proposals, investment and savings activities are not taxed at the margin. There is no double taxation of corporate income and dividends, but the system is made progressive by providing a personal allowance deduction for individuals, so the poor will pay no tax and lower income groups would pay less as a proportion of income than higher income groups. Using a personal allowance to obtain progressivity retains the simplicity of the single rate. The productivity effect of such a system likely would be significant and would stimulate greater real incomes so that even those who experienced near term increases in taxes, as a result of reducing current tax preferences, would realize net benefits in three to four years.

The Committee is concerned about several aspects of such a proposal — its distributive effects, its impact on charitable institutions, the transition rules concerning the treatment of undepreciated asset balances, the taxation of inheritances, and the refundability of carry forwards. Nevertheless, the Committee believes there is an opportunity and a need for fundamental tax reform. Proposals aimed at reducing high marginal tax rates and eliminating double taxation of corporate income, while meeting the nation's revenue needs, merit high priority as a means of stimulating productivity growth.

### **Capital Investment Planning Requirement for Certainty**

#### **RECOMMENDATION 3**

*Preserve the current tax incentives for investment while insuring that future tax code changes do not affect capital formation adversely.*

The high inflation of the 1970's caused a systematic overstatement of investment income and pushed more and more taxpayers into higher marginal tax brackets. The resulting reduction in rewards for saving and investment impeded these productivity enhancing activities. The savings and investment incentives enacted in the Economic Recovery Tax Act of 1981 reduced personal income tax rates and introduced an accelerated capital cost recovery system (ACRS) that rationalized the depreciation treatment of capital.

The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) reduced or modified certain capital investment incentives while making others permanent. At current levels of inflation, the net result

of the 1981 and 1982 tax acts has been a virtual elimination of the income tax burden on rates of return to investment in depreciable machinery equipment (except in public utilities) provided that the taxpayer can fully use the investment allowances.

It is important to continue a policy of reducing the impediments of the tax system on business investment decisions, and it is also highly desirable to provide businesses a period of certainty regarding basic tax rules so that they can make the necessary productivity enhancing capital commitments without excessive concern for the present or future tax consequences of those commitments. In addition to recommending that the President and the Congress consider the impact of all future tax legislation on capital formation and productivity growth, the Committee also urges that the Congress avoid any action that would create an environment of uncertainty adverse to capital formation.

## Leasing Tax Provisions

### RECOMMENDATION 4

*Provide Treasury Department regulations setting forth the standards for a true lease, thereby (1) eliminating the uncertainty overhanging the leasing industry and (2) improving the IRS's ability to police lease transactions; change the effective date of liberalizing TEFRA changes made to non-safe harbor "finance leases" (allowance of a fixed price purchase option and the leasing of limited use property) and extend them to public utilities; and remove the finance lease restrictions that require a spreading of the investment tax credit over five years and that limit the amount of property that may be leased.*

Safe Harbor Leasing was intended to make the tax incentives of the accelerated capital cost recovery system equally available to all firms regardless of their current financial situation. The changes made to Safe Harbor Leasing in TEFRA substantially reduced its benefits so that it is unlikely Safe Harbor Leasing will be used to any great extent. Given the legislative environment and the pressures to preserve revenues, the prospects of reviving Safe Harbor Leasing appear remote. There are, however, several things that can be done to make non-Safe Harbor Leasing more efficient.

The current law on the definition of a true lease for tax purposes is unclear at best. The Internal Revenue Service follows certain guidelines in deciding to issue an advance determination on whether a transaction is a lease. These guidelines leave many questions

unanswered and certain aspects of them are inconsistent with normal business practice. Moreover, the courts have not accepted many of the guidelines. This uncertainty has discouraged some businesses from engaging in leasing transactions, and, for those companies that do leasing, the uncertainty has made transactions less efficient. By issuing a set of regulations setting forth the standards of a true lease, the Treasury could improve the efficiency of non-Safe Harbor Leasing. This would help to eliminate the uncertainty that hangs over the leasing industry and would help the IRS to police transactions.

Changing the effective date and certain limitations of the special "finance lease" provisions of TEFRA also would improve the efficiency of leasing. There are, however, two additional limitations placed on finance leases that apply through 1985 that detract from their usefulness: (1) in finance leases entered into during 1984-1985, the investment tax credit with respect to the property must be spread over 5 years, and (2) a user may use finance leases for only 40 percent of its investment per year. The use of finance leases as an effective mechanism for realizing the benefits of ACRS would be enhanced if these two limitations were removed and the effective date moved forward to leases signed after December 31, 1982. Also, public utility property should be added to the list of property eligible to take advantage of the finance lease provisions.

## **Individual Retirement Accounts**

### **RECOMMENDATION 5**

*Raise the Individual Retirement Account (IRA) ceiling of \$2,000 per year by indexing it to keep pace with the rate of inflation.*

### **RECOMMENDATION 6**

*Make Individual Retirement Accounts more attractive by permitting penalty-free, but taxable, withdrawals after four years.*

The 1982 Economic Recovery Tax Act did much to remove impediments to personal savings but more is needed to promote individual savings, especially for retirement. The \$2,000 ceiling on Individual Retirement Accounts should be raised to provide an incentive for additional saving to those individuals who already save at least \$2,000 per year. To accommodate future growth, the ceiling should be adjusted automatically to keep pace with rising incomes and prices. Making the accounts more liquid also will reduce the

uncertainty associated with committing funds to long term investment. Currently, IRA investments can be withdrawn prior to age 59-1/2 only under tax penalty.

### **Capital Gains Holding Period**

#### **RECOMMENDATION 7**

*Eliminate the distinction between short-term and long-term capital gains.*

The Committee believes that eliminating the long term capital gains holding period will stimulate capital formation. Trading volume in equities markets would increase, and expanding the breadth and depth of these markets would make it easier and cheaper to buy and sell. At the same time, this change also may increase tax revenues generated through capital gains taxation.

### **Social Security System**

#### **RECOMMENDATION 8**

*Slow the growth of retirement and survivor benefits by limiting the inflation indexing of benefits to the excess of inflation over some minimal rate, e.g. the Consumer Price Index minus three percent.*

#### **RECOMMENDATION 9**

*Extend the age at which individuals can receive full retirement benefits from 65 years to 68 years over a 12 year period by extending the retirement age 3 months each year. Future benefits also might be reduced by changing the formula relating monthly benefits to average lifetime earnings.*

While significant attention has focused on the financial problems of the Social Security System, many of which were addressed by the National Commission on Social Security Reform recommendations issued in early 1983, the longer term impact of the System on savings and its financial stability remain general concerns. The changing age distribution of the population means tax rates of more than 20 percent and perhaps more than 30 percent will be needed to finance future benefits. If such high payroll taxes are added to other federal and state taxes most individuals would find themselves paying more than forty cents in tax on every extra dollar they earn.

Between 1970 and 1980 old age and survivor benefits per recipient rose 55 percent when measured in dollars of constant purchasing power. During the same period, average constant dollar gross weekly earnings of private non-agricultural workers were essentially unchanged, rising less than 2 percent over the entire decade. Thus, the ratio of average benefits to the average earnings of those who pay social security taxes rose by more than 50 percent. During previous decades, the ratio of benefits to earnings showed little change, rising less than 10 percent.

While many of the financial solvency issues have been addressed on a near term basis, there is a continuing concern about the effects of the system on savings, investment, and productivity. The way in which the Social Security System is structured reduces the incentive for individuals to accumulate savings for their retirement. Slowing the growth of benefits would encourage households to provide more for their own retirement income through private pensions and direct savings.

Individuals who now anticipate indexed social security benefits that replace 75 percent more of their maximum net earnings have minimal incentives to accumulate additional retirement income. Reducing tax rates and other incentives to save will contribute little to encouraging additional savings among those who believe that, because of social security, they are already deferring too much of their lifetime consumption until their retirement years. A high level of social security benefits thus acts to depress private saving and therefore the nation's rate of capital accumulation. While the extent of the impact of social security on private savings is difficult to estimate, a substantial body of evidence indicates that each additional dollar of permanently higher benefits reduces private wealth accumulation by more than fifty cents, but by less than one dollar.

Reducing the current growth rate of social security benefits can contribute significantly to national savings. The Committee believes this can be achieved least disruptively by limiting the inflation indexing of benefits. Restricting the growth of benefits to the excess of inflation over some minimal rate, such as three percent, as well as limiting public pensions and other indexed benefit programs, would provide minimal hardship to those using those programs while at the same time guaranteeing that real benefits would keep pace in the event of higher rates of inflation.

Reducing future social security benefits strengthens individuals' incentives to save, directly or through larger private pensions.

A reduction in future benefits also would occur if the age at which full benefits could be received were extended from 65 years to 68 years or later. Future benefits also might be reduced by changing the formula relating monthly benefits to average lifetime earnings.

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## HUMAN RESOURCES

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Our country's human resources are among our greatest assets. They are a renewable resource that continues to grow, accumulating experience and expertise. Capital and technology are dependent upon a motivated, healthy, skilled and fully productive work force. Underemployment and unemployment resulting from a work force that is improperly trained and educated, suffering health disorders or the burden of rapidly rising medical expenses, or adversarial employer - employee relations impedes productivity growth. These conditions have contributed directly to the declining rate of productivity growth.

Recognizing the broader initiatives undertaken by the Administration in education and job training and through the Job Training Partnership Act, the Committee focused its inquiry on three specific areas: training and relocation of permanently displaced workers, health care costs and benefit programs, and the use of employee, management and government cooperative efforts to promote productivity growth. Math, science and engineering education issues also were discussed and are covered in the section on research, development and technological innovation.

### Training and Relocation for Displaced Workers

#### RECOMMENDATION 10

*Amend Section 3304 (a)(4) of the Federal Unemployment Tax Act to provide State agencies flexibility to use unemployment insurance funds in designing unemployment adjustment assistance programs to provide for "services and cash payments to state-designated persons who encounter permanent dislocation from their jobs."*

Workers suffering permanent displacement from the shutdown of plants or a permanent reduction in employment in existing establishments represent a substantial loss of skilled resources, output, and productivity. Although reliable data on this subject do not exist, estimates place the number of workers permanently dislocated from their jobs in the hundreds of thousands.

Currently, the Federal-State Unemployment Insurance (UI) system does not give States flexibility to use UI funds in providing appropriate adjustment assistance to the permanently displaced experienced work force. The UI system exists to provide public financial support for persons undergoing labor market transition and, in fiscal year 1983,

spent \$23 billion to meet the temporary income maintenance needs of the unemployed. This system should be modified and enhanced to improve the occupational and geographical mobility of permanently displaced workers. Without violating the integrity and insurance nature of the system, greater discretion should be given to the States in using these funds. The Committee believes that States should be permitted, but not required, to use a limited amount of UI funds for training and technical assistance, and for relocation.

### **Department of Labor Support for State Adjustment Programs**

#### **RECOMMENDATION 11**

*Make available Department of Labor technical assistance—training of State staff, providing techniques of program development, and on-site assistance—for the initial implementation of displaced worker programs.*

To enhance the effectiveness of the Job Training Partnership Act, the federal government, through the Department of Labor, should offer assistance to states in developing programs to aid dislocated workers. State governments have broad discretion in designing their programs and may need assistance in doing so. Assistance in training state staff, technical advice in program development, and on-site aid in initial implementation will disseminate knowledge now available to federal managers and help to transfer knowledge between successful State efforts.

Special attention also should be given to partnerships with private sector experience and efforts to assist dislocated workers. Specific programs for placing interested workers in new jobs before a major dislocation should be encouraged. In addition, local job information systems can be improved and integrated through an interstate network to improve the availability of information on prospective job opportunities and to increase the effectiveness of the job placement service.

Involving state job training councils, local private industry councils, and local employment service administrators in each of these efforts will help to ensure that the States' dislocated worker programs are coordinated with existing employment and training programs.

### **Productivity in Health Care**

#### **RECOMMENDATION 12**

*Federal and State government agencies should encourage the development and use of State and local health care coalitions.*

### **RECOMMENDATION 13**

*The Federal Government should develop non-regulatory guidelines for acceptable activities of State and local health care coalitions to constrain rising health care expenses.*

### **RECOMMENDATION 14**

*The Federal Government should adopt a system of prospective budgeting for institutional care payments and encourage private sector institutions to do the same.*

### **RECOMMENDATION 15**

*Public and private sector organizations should support further experimentation with health care benefit programs that encourage choices among workers and groups — so-called cafeteria plans.*

Expenditures on health care have risen rapidly during the past decade and now constitute ten percent of the gross national product. Medicare and the federal-state cost of Medicaid increased at an average annual rate of 16 percent between 1975 and 1980 and 21 percent in 1981. The total cost of these programs grew from \$30.8 billion in 1975 to \$72.5 billion in 1982. In addition, the medical care component of the consumer price index has been rising faster than the average for the index. In 1980-1981, the CPI medical care component rose 12.5 percent compared to 8.9 percent for all other items.

The composition of health care expenditures is also changing. In 1980, 30 percent of personal health care payments were paid out-of-pocket, compared to 60 percent in 1950. Public programs paid 40 percent, and private health insurance paid 27 percent of personal health care expenditures in 1980. The largest portion of the health care dollar is spent on hospital care which was 40 percent of the total in 1980. Physician services accounted for 19 percent and nursing home care for 8.4 percent.

It is critical both to productivity within the workforce and to the general social welfare to limit health care costs while maintaining high quality and accessible health care. By improving health care productivity, current levels of care can be provided at lower cost. Better care also will improve the quality and productivity of the labor force.

The Committee recognized the key role that community and government efforts below the federal level can play in responding to this sensitive challenge. In the last several years, local and State health care coalitions have grown, and at the end of 1982 there were about 120 such coalitions at varying stages of development. Many of these

coalitions have concentrated on constraints on hospital beds, utilization reviews, out-patient and ambulatory care, reviewing benefit structures and other related issues depending on the problems and opportunities of the particular locality. These coalitions provide an opportunity for systematic dialogue among those parties most directly affected and most directly interested in restraining costs, adjusting to lower federal aid, and maintaining quality and access to health care benefits.

Those involved in the development and use of state and local health care coalitions reflect growing anxiety about the uncertain application of antitrust laws to their activities. The intent of these coalitions is not to promote cartelization of health care services, but rather to focus on constraining cost increases. They involve parties whose joint cooperation frequently could be construed as promoting anti-competitive behavior, however, and they need to have a better understanding of what activities they can undertake, and what activities are prohibited, under the antitrust laws. If community groups decide, for example as they did in Cincinnati, that there are too many hospital beds in their community, then subsequent efforts to reduce the expansion of beds will help to reduce hospital bed costs. If a coalition can determine that there are not enough ambulatory care facilities and subsequently more are provided, this too will result in constraining health care expenditures while providing greater access to health care. The appropriate role for the federal government in this activity would be to remove uncertainty about what activities are permissible and to encourage State and local organizations to consider this as a vehicle for responding to the pressures of rising health care costs. The Federal role should not be regulatory, prescriptive nor to require the use of these coalitions.

In mandating that the Department of Health and Human Services produce a prospective budgeting system for certain health care expenditure categories, the Congress believed that there were great opportunities for cost and productivity savings in this area and that prospective budgeting should be applied more widely to health care facilities to stimulate the use of productivity enhancing techniques and a reduction in costs.

Finally, the Committee believes that promoting greater choice among workers and groups of workers as to health care benefits — so-called cafeteria plans where workers receive funds not expended on health care programs — will enhance productivity and provide cost savings in the offering of these plans. While there may be some minimum benefit level that will need to be prescribed to assure basic health, and thus productivity among the work force, beyond that point employees would be able to select the health benefits they prefer.

The Committee recognizes that there are a multitude of widely debated alternatives for improving productivity in the health care

industry. It believes, however, that these four recommendations, though modest by some standards, can build further consensus in this area and at the same time assure progress in improving the productivity of the health care delivery system.

### **Joint Productivity Initiatives Among Employers, Employees and Government**

#### **RECOMMENDATION 16**

*Encourage, facilitate, and assist the formation and operation of voluntary committees and councils at the national, sector, industry, State, community, firm and operating unit level:*

- In structurally distressed sectors or localities, governments should recommend and assist labor-management groups to seek long-term adaptation and solutions to structural problems.*
- The Department of Labor and the Federal Mediation and Conciliation Service should continue to provide information and research services to help cooperative committees.*
- Government should encourage formation of joint committees to help develop long-term research and development programs for industries that have no systematic research and development programs to enhance their international competitiveness.*

#### **RECOMMENDATION 17**

*Examine alternatives for encouraging a continuing dialogue between labor, management and government at a national level on issues related to productivity, product quality and quality of working life.*

America's international competitors have demonstrated repeatedly an ability to improve productivity, quality and competitiveness through cooperative labor, management and government efforts. Continuing dialogue at all levels between labor, management and government groups seeking to develop a greater consensus on issues related to productivity, product quality and quality of working life can contribute significantly to attaining these goals. While these efforts should be voluntary, the Committee believes that government can facilitate these efforts.

There are many ways of structuring and pursuing cooperative employee, management and government participation and the

Committee does not recommend a specific form or forum. Rather, it recommends the general concept and modifying the Federal Advisory Committee Act, if necessary, to permit government interaction among these private organizations. Among those things that might be considered are the following:

- Government exploring with employee and management groups various ways of working more cooperatively through the general use of committees and councils;
- In structurally distressed sectors or localities, government recommending, assisting, and developing groups to seek long term adaptation and solutions to structural problems;
- Federal agencies, such as the Department of Labor and the Federal Mediation and Conciliation Service, continuing to provide information and other services in support of the creation and operation of cooperative committees in both the private and public sectors;
- In sectors where private parties have had no systematic research or development to enhance their international competitiveness, government encouraging formation of joint committees to assist in the organization of long term research and development efforts; and
- Government considering alternatives for pursuing an ongoing dialogue at the national level between the private and public sectors.

Rebuilding a common commitment among our major institutions to improving productivity, product quality and quality of work life is necessary to regaining and maintaining competitiveness in domestic and international markets. Working together can serve the interest of all parties.

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## ROLE OF GOVERNMENT IN THE ECONOMY

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The federal government imposes requirements on private sector organizations in pursuing economic and social welfare objectives. It engages in economic or price regulation, such as in public utilities, transportation and financial services, to establish minimum or maximum rates that may be charged to those using particular products or services. Second, through antitrust regulation, it provides a framework for competitive pricing in private markets. Third, the government regulates to increase the quality of the environment, the safety of the work place, and the integrity of consumer and industrial products for the health and safety of those who use them.

Economic research on the impact of regulation suggests that regulation has contributed to the declining productivity growth rate in several regulated industries. Edward Denison estimated that the increased direct costs of complying with environmental, health and safety regulations overall contributed around 0.25 percent per annum to the slowdown in productivity growth. In a recent book by William Nordhaus and Robert Litan, health and safety regulation was found to have contributed between one eighth and one quarter of the measured decline in productivity during the 1970's, particularly through requiring capital investment for regulatory purposes.

Research by Paul MacAvoy found that regulation of the energy, transportation and communication industries in the 1970's, especially during periods of substantial inflation in 1974, 1978 and 1979, so reduced the profitability of these public utilities that capital investment growth became negative and subsequently productivity also became negative during the closing years of the 1970's. All sectors of the economy subject to economic regulation averaged zero productivity growth in the end of the 1970's.

The Committee examined the impact of the Clean Air Act, auto emission and stationary source emission standards, and regulation of the financial services industry on productivity in those industries and in the economy. In addition, the Committee also endorsed a legislative initiative to provide greater flexibility in requiring the use of visas by non-immigrant visitors from certain developed countries.

### Clean Air Act Passenger Car Emissions Standards

#### RECOMMENDATION 18

*Maintain passenger car emission standards at 1980 levels to mitigate the significant negative productivity impact of the 1981 and 1984 emission standards.*

Productivity growth in the motor vehicle industry has declined by one quarter since 1968, in part because compliance with requirements under the Clean Air Act diverted substantial resources from productivity improving investments. While data limitations make precise quantification of the effects of the Clean Air Act impractical, recent research has estimated that more than 15 percent of total factor inputs in each vehicle are required to meet 1981 passenger car emissions standards. One study has calculated that complying with the 1981 passenger car emissions standards costs \$1,450 per vehicle. This represents a cost of over \$14 billion in a 10 million car sales year.

The Committee believes the 1981 standards impose investment requirements that far exceed the value of the marginal improvement they produce in ambient air quality, and that retaining the 1980 standards would make no perceptible change in the rate of progress toward achieving the carbon monoxide National Ambient Air Quality Standards.

Applying the 1980 standards also would eliminate the 1984 requirement for all new cars to meet high altitude standards, even though only three percent of total sales are for high altitude use. The additional productivity loss resulting from the all-altitude standard has been estimated at another one percent for gasoline engine automobiles. Thus, holding at the 1980 level not only produces immediate productivity gains but also insures against further productivity losses in the middle of the decade.

### **Clean Air Act Stationary Source Emissions**

#### **RECOMMENDATION 19**

*Eliminate regulatory decision-making based on technological requirements and end the discrimination against new plants created by the new source performance standards.*

#### **RECOMMENDATION 20**

*Review the National Ambient Air Quality Standards (NAAQS) setting process to simplify it and assure that the compliance requirements are set to approximate more closely the time periods and weather cycles actually encountered in production.*

#### **RECOMMENDATION 21**

*Amend the Clean Air Act to include consideration of economic and welfare costs in developing secondary NAAQS.*

## RECOMMENDATION 22

*Recognize the Environmental Protection Agency Emission Trading Policy Statement of April 7, 1982 as an important first step toward developing a flexible and efficient control system.*

## RECOMMENDATION 23

*Expand the Trading Policy Statement into a full Transferable Discharge Permit (TDP) system for nitrous oxides and volatile organic compounds and use it to replace the current equipment based standards now dominating regulation. Further, use this TDP system as the basis for a market incentives pollution control.*

The Committee believes this area of regulation is one of the most costly, least effective, and most fiscally burdensome in terms of regulatory employee requirements. It believes that a new strategic approach to environmental regulation is necessary. It supports a gradual change in the method of regulation, replacing current equipment regulations with performance regulations.

The National Ambient Air Quality Standards set permissible levels for local concentrations of six pollutants. The primary NAAQS established ambient levels of pollution to protect the public health with an adequate level of safety, while the secondary standards protect other public welfare concerns susceptible to pollution damage. To attain the primary NAAQS, government agencies have promulgated a wide range of standards applicable to most sources in an area. The Environmental Protection Agency sets New Source Performance Standards (NSPS) which limit new sources to the equivalent of the emissions from the Best Available Control Technology (BACT), except in nonattainment areas where they require the extremely strict Lowest Achievable Emissions Rate (LAER). Further, the EPA sets limits on hazardous air pollutants and classifies regions for the significant deterioration program. The states, working from pollution dispersion models, translate NAAQS into emissions limitations for existing State Implementation Plans (SIPs).

Several studies have measured the decline in national productivity due to pollution abatement programs. Edward Denison has estimated that pollution abatement programs have decreased the rate of growth of output per unit of input by .08 to .22 percent per annum through most of the 1970's. Robert Haveman has estimated the effect of environmental regulation at 8-12 percent of the decline in labor productivity growth since 1972, and Robert Crandall has identified an even sharper decline in industries required to install emissions control technology than in other industries.

The cost of complying with the primary standards in the present Clean Air Act has increased greatly since it was promulgated in 1970. The Council on Environmental Quality (CEQ) has estimated that air pollution control expenditures to meet the Act's provisions have required capital investments well beyond what the industry normally would have incurred. Through the 1970's the CEQ data show a 312 percent increase in industry compliance costs. CEQ also predicts a further increase in compliance costs of about 38 percent through 1988, and this may underestimate the investment requirements depending on the extent of future regulations.

Much of the cost in expenditures and reduced productivity could have been avoided while achieving the same level of air quality. For example, present Clean Air Act requirements that utilities use Best Available Control Technology to clean their effluents, no matter what the sulfur content of their input fuels, encourages the use of high-sulfur fuels. When the utility must make the heavy expenditure for cleaning effluents no matter what the fuel input used, then it will be cheaper to use high-sulfur, low cost coal rather than low-sulfur coal. Withdrawing the requirement for use of BACT would encourage better use of cleaner fuels, reduce capital requirements for new utilities, and provide a generally cleaner ambient air at an overall lower cost to the economy.

In support of its belief that a new strategic approach to regulation of stationary emissions is needed, the Committee examined several areas in which the current system appears not to be working. New plants, for example, bear a disproportionate burden, because the standards that apply to existing sources allow pollution far in excess of the strict standards for new sources. The Clean Air Act creates an incentive for industry to keep old plants operating on line after they become obsolete.

EPA currently requires continuous control so that a plant is in 100 percent compliance during all operating periods. Many facilities can be in full compliance up to 98 percent of all operating periods with much less expensive noncontinuous control equipment. To obtain the extra increment, however, EPA has ordered firms to install costly equipment without considering other approaches, such as periodic shutdowns during adverse atmospheric conditions. Legislation introduced in 1982 would have allowed areas under the Prevention of Significant Deterioration Program to allow noncontinuous control so long as the extra emissions did not exceed maximum levels.

The basis for particulate matter in sulfur dioxide standards are 1960 British epidemiological studies. For particulate matter the EPA added a significant margin of safety that resulted in standards more stringent than those originally recommended. In addition, the technique for monitoring and the criteria involved add further safety

factors such that the cumulative effect is protection beyond what was intended or is needed epidemiologically. The process for setting NAAQS is also lengthy and complex.

The secondary NAAQS seek to protect the nation from injury to crops and other adverse nonhealth affects, but the standards setting process does not allow for explicitly considering welfare and economic costs in attaining the standards. Based on past experience these standards likely will involve many adverse welfare, economic and productivity losses in excess of anticipated welfare gains. These costs and benefits should be considered jointly in setting secondary standards.

The EPA emissions trading policy statement represents a significant step forward in providing a new regulatory framework. Making the policy effective, however, depends on states deciding to participate, and therefore, there is an opportunity for a patchwork of different state systems with no clear national policy. In addition, court cases have raised serious doubts about the EPA's authority to pursue these new initiatives. As a result, statutory authority for the EPA bubble concept and other regulatory reform initiatives is necessary.

The alternative is a transferable discharge permit (TDP) system that would give each plant the right to discharge a given volume of pollutants. The system, by allowing transfer of these rights, would make it possible for high cost abaters to reduce their control cost by purchasing discharge rights from lower cost abaters, and would eliminate the disincentive to build new plants resulting from the difference between SIP and NSPS emission levels. To prevent the system from allowing an increase in pollution as new plants receive permits, the government could purchase TDP's in the market to distribute to new sources. The total number of permits available in a region would remain unchanged so total emissions would not increase.

The Committee's objective is to maintain environmental quality while permitting the market to equate costs and benefits of control thereby providing greater efficiency in meeting the nation's Clean Air Act goals. The Committee's recommendations will eliminate the current bias in favor of old technology and provide an incentive to invest in new technology since firms replacing old plants with cleaner new facilities will achieve gains through the sale of surplus permits. For those who would like to achieve even cleaner air, a TDP system would allow the government or environmental groups to buy up emission permits in a particular area.

Overall, the transferable discharge permit system provides a cost effective method for reducing emissions to the level required by the NAAQS. In addition, it permits a superior alternative to the current "standards and plans" method of administering the Clean Air Act that will enhance productivity growth.

## Financial Institution Reform

### RECOMMENDATION 24

*Expand thrift institution lending and investment authority to improve their profitability and productivity and the productivity of the industries that rely on funds from these institutions.*

### RECOMMENDATION 25

*Accelerate the Depository Institutions Deregulation Committee deregulation of interest rates so commercial banking and thrift institutions can compete more efficiently for short term loanable funds.*

Although measures of productivity growth in the financial services industry are imprecise, the Committee believes that the current financial regulatory environment, developed over the last half century, has substantially impeded productivity growth in this important industry. The Committee considered several areas in which reforms are needed: expanding the service offering of depository institutions; removing anticompetitive barriers across financial institutions; and expanding service location opportunities for all such institutions.

There has been a long history of Congressional control of banking and savings institutions to protect depositors and to prevent the growth of concentrated market power in these institutions. As constraints were applied, for good reasons, a body of regulation developed that itself caused the creation of new institutions providing banking services outside of the banking regulatory framework. Many of these services became substantially superior to anything that banks could offer and the financial marketplace began to move beyond traditional depository institutions.

Before the Garn-St Germain legislation in 1982, thrift institutions (savings and loan associations and mutual savings banks) were restricted in the range of lending and investments they could offer. This affected their capacity to operate profitably and productively; it also affected the productivity of financial markets providing capital to individuals and businesses. Providing the thrift industry with increased lending and investment powers gives it greater flexibility and will provide greater vitality and productivity in financial markets on a longer term basis.

The schedule for removing interest rate limitations on savings and time deposits offered by commercial banks, savings and loan associations and mutual savings banks, first adopted by the Depository Institutions Deregulation Committee, began with

deregulation of longer maturity time deposits. Believing that this schedule was an effective and efficient way of deregulating interest rates, the Committee was also concerned about the growing disintermediation of short term deposits. The rapid growth in money market mutual fund accounts was drawing a significant volume of loanable funds out of traditional depository institutions. Therefore, an acceleration of the deregulation schedule and attention to the competition for shorter term funds was necessary.

The Committee believed that legislative action on expanding asset powers for thrift institutions should be coupled with accelerating the deregulation of interest rates on all depository institutions. Creating greater competitive access to shorter term deposits without providing expanded asset powers for thrift institutions would have contributed to the inefficiencies that were responsible in part for their asset-liability imbalance.

## **Regulation of Financial Activities**

### **RECOMMENDATION 26**

*Exempt from branching restrictions bank owned or leased customer transaction terminals and permit less restricted use of productivity enhancing technology.*

### **RECOMMENDATION 27**

*Request the Department of Justice to examine the unique situation presented by shared EFT systems and to provide guidelines on the application of antitrust laws.*

### **RECOMMENDATION 28**

*Promote alternate federal-state examination of state chartered banks subject to FDIC and state examination rather than concurrent examination to permit more efficient and productive use of bank and government audit resources.*

The financial institutions regulatory framework, particularly for commercial banks, has developed without recognition of the rapidly increasing availability of new technology for use by the banking and financial service industry. As a result, the regulatory environment has impeded the growth of technology and productivity within these organizations.

This technology is also changing the ways in which banks can provide basic services to their customers and in which they can relate to one another. It accommodates a higher volume of transactions and

provides incentives for sharing facilities with other institutions or for expanding an institution's own facilities, thereby enhancing the industry's productivity. The mismatch of service capabilities provided by new technology and existing legal mandates has created an environment that hinders the use of productivity enhancing technology directly and also creates legal uncertainty.

Each of the fifty states has its own set of branching and other banking laws. Thirty-four states have enacted legislation specifically governing deployment of electronic banking machines, most considering electronic funds transfer (EFT) facilities as other than the legal equivalent of a full service branch. The 1976 Federal Appeals Court decision in the case of *Independent Bankers Association of America v. Smith (Comptroller of the Currency)*, however, held that the Comptroller of the Currency lacked power to classify a national bank's customer communications terminals as non-branches. The mere maintenance of a regulatory mechanism to process applications for branch facilities that are no more than service machines at remote locations impedes productive deployment of these machines and provides a drag on productivity within the regulatory establishment.

Separately shared EFT systems have increasingly crossed state lines, partially in a response to the general dominance of state branching laws. Twenty-three states require opening any EFT system to some form of sharing with multiple financial institutions. Fourteen states permit electronic transactions to flow across their state borders.

The application of EFT technology also has been subject to increased uncertainty because of the possibility that shared systems may violate antitrust laws concerning "combinations in restraint of trade." Antitrust is a major issue for the national bank card system (Visa and MasterCard), and it is becoming one for the growing regional shared EFT systems. The Committee believes in general that legislation and regulation of the financial services industry must react more quickly to the development of new technology.

In addition, duplication and redundancy in the examination and supervision of these financial institutions have imposed unnecessary regulatory burdens and impediments to productivity growth within these institutions. State chartered banks insured by the Federal Deposit Insurance Corporation (FDIC), for example, are examined by a State banking supervisor and the FDIC annually. In most cases, examination by both supervisors is redundant and reduces the productivity of these institutions. To eliminate this duplication, the Committee recommends pursuing a divided examination program similar to that used for nationally chartered banking institutions.

The Committee recognizes and commends the creation of the Vice President's Task Group on the Regulation of Financial Services and believes that the principles of regulatory consolidation should be

extended to the dual federal and state banking systems. Many benefits accrue to the states who participate with the FDIC in a divided examination program. Some states, however, are not permitted by state law to participate and others are reluctant to forego the revenue generated by annual examinations of their state chartered banks, because this revenue supports activities other than the bank examinations themselves.

### **Non-Immigrant Visa Requirements**

#### **RECOMMENDATION 29**

*Amend the Immigration and Nationality Act to permit waivers of the visa requirement for nationals of up to eight countries for an experimental three year period for visitors intending to stay no longer than ninety days in the United States and who have nonrefundable airline tickets.*

The Immigration and Nationality Act requires that every foreign national, except those of Canada, the Bahamas and British nationals resident in Bermuda, obtain a visa in order to enter the United States as a tourist. This process discourages some foreign nationals from visiting the United States as tourists.

Air carriers, hotels, and other service operations are operating at lower capacity because their facilities are used less when tourism is reduced. By impeding foreign travel into the United States, the visa requirement process prevents U.S. industry from utilizing fully and productively its available resources. The Committee recognizes the need to review the law in this area and believes that a proposal to permit, on an experimental basis, visa waiver authority for nationals of up to eight countries is appropriate.

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## RESEARCH, DEVELOPMENT AND TECHNOLOGICAL INNOVATION

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Research, development and technological innovation generate continuing opportunities for discovering new ways of improving productivity. There are no simple correlations among research, development, innovation and productivity, but it is these activities that provide the basis for stimulating productivity growth. Basic research provides new knowledge and new technology. Further development and innovation transform that knowledge into useful products and processes.

The role of government in the research, development and innovation process is to maintain an appropriate environment for such activities. Where the benefits arising from the development of new knowledge are not captured by those who develop them, government funding and support is appropriate, to the point that additional benefits are equal to the additional costs of obtaining them. In addition, the government provides through its statutes and regulations opportunities for private enterprise to obtain and appropriate the benefits from its own research. Business funding of research and development thereby provides profits for those who invest in it, whereas government investments are in those areas where the benefits are general.

The Committee focused principally on the role that government might play in strengthening the incentives for private investments in research, development and innovation and in creating an environment that will facilitate productively using the knowledge from this research. It identified several areas as providing the most significant payback from immediate government action: reforming patent policies to reflect the dynamics of new technology; addressing the challenge to the intellectual property regulatory framework presented by computer software; redressing the science, math, and engineering manpower shortages; clarifying the antitrust constraints on cooperative research and development and highlighting such opportunities as limited research partnerships; focusing attention on research in the service sector; identifying an appropriate role for the government in the process of metric conversion; and developing a national medal for productivity achievement.

## **Patent and Trademark Office Modernization and User Fees**

### **RECOMMENDATION 30**

*Encourage the Administration's efforts to modernize the Patent and Trademark Office and support financing its modernization through user fees comparable with fees charged in other countries.*

The patent system, through its impact on technological innovation, contributes significantly to economic and productivity growth. It provides incentives for creating new technologies that in turn improve productivity, develop new industries and jobs, and maintain or improve American industry's competitiveness in domestic and world markets.

In addition to the actions already taken to strengthen the judicial system for dealing with patent cases on appeal, the Committee believes that we must improve the overall effectiveness and efficiency of the Patent and Trademark Office (PTO). Our patent system has often impeded productivity enhancing technologies from being developed and used. Without the protection necessary to assure a market rate of return as inventions are licensed and used in production, new technologies will not become available in the marketplace where they could contribute further to more productive and efficient work.

During fiscal year 1981, the PTO processed about 88,000 patent applications, approximately 20,000 less than it received during that fiscal year. This added almost 10 percent to the backlog of over 200,000 cases. It took nearly 23 months on average to secure a patent. Moreover, an average of 6-7 percent of the patents in the examiner's files were missing or misfiled. In rapidly developing fields as many as one out of four patents was missing or misfiled. To register a trademark, it was taking 24 months, an unacceptable length of time for businesses needing trademark protection.

Automating the Patent and Trademark Office operations is long overdue and is needed not only to increase PTO productivity, but more importantly to facilitate the patenting of new technologies thereby permitting greater opportunities to market and use those technologies. The Committee believes that the principle of cost recovery through user fees is an appropriate means of funding this modernization. Eventually, the patent and trademark process should become self-supporting. Current fees are inadequate to accomplish this modernization and are inconsistent with inflation adjusted charges in other countries and with the historical pattern of United States patent fees.

Inventor groups, small businesses and patent practitioners are concerned about charging higher rates for processing patents and

trademarks. They believe higher fees could make patents too expensive for small businesses and independent inventors, and also that public benefits may exceed private and user benefits from an improved and better used patent and trademark system. Systems in which fees are set by the organization to recover its costs may not provide an appropriate check on the organization to control its costs if there is no outside competition.

Considering these concerns, the Committee believes that setting fees by Congress would assure that they would not be raised without public justification except to adjust for changes in the consumer price index, the authority for which would be delegated to the Commissioner of the PTO. In addition, the appropriations to the PTO could be increased to support the filing, issue and maintenance fees paid by small businesses, independent inventors and non-profit organizations.

### **Patent Term Restoration**

#### **RECOMMENDATION 31**

*Restore part of the patent terms to applicants with patents eroded by federal pre-market regulatory review to enhance incentives for research and innovation.*

The patent term is an important element in patent protection, especially to segments of the high technology industries that face potentially long delays in market introduction because of necessary federal regulatory approvals. Reversing the declining rate of innovation requires stemming the declining attractiveness of the patent system to important sectors of research intensive industries whose patent protection alternatives attenuate during regulatory clearance processes. Inventions in certain high technology fields, including agricultural chemicals and pharmaceuticals that depend heavily on patent protection, are affected adversely by the pre-marketing clearance procedures that count against their patent term, thereby eroding their protection. Restoring some portion of the patent term to applicants whose patent protection is otherwise reduced by federal pre-market regulatory review would restore incentives for research activity provided by the patent system.

### **Inventions From Government Contracts**

#### **RECOMMENDATION 32**

*Establish a uniform patent policy across all government agencies that would permit all government contractors, except*

*in narrowly defined areas, to retain commercial rights to their inventions to provide greater incentives for developing and using these inventions.*

Different government agencies have maintained different policies for commercializing patents for inventions developed under government contracts. This prevents fully utilizing these advances and discourages many of the most qualified and competent contractors from participating in government programs. Establishing a uniform patent policy permitting all government contractors, except those in narrowly defined areas, to retain commercial rights to their inventions, while protecting broad government license and "march in" rights, would provide greater incentives to develop and use the inventions and innovations arising from government contracts.

The Committee believes that legislation is necessary to establish a uniform patent policy across all government agencies and for all of their contractors and grantees. Such legislation would assure greater government responsiveness and would serve to spur business executives to invest in inventions resulting from federally sponsored activities. The Committee believes that the likelihood of an invention being developed and used commercially increases significantly when exclusive commercial rights in the form of title are given to the contractor or developer. Otherwise, there is less incentive for private organizations to invest the funds necessary to advance the invention or innovation to commercialization.

### **Patent Validity and Infringement Disputes**

#### **RECOMMENDATION 33**

*Enact new legislation to permit voluntary arbitration of patent validity and infringement disputes.*

Arbitrating disputes about patent validity and infringement will alleviate one of the major deterrents to using the patent system, especially by small businesses and independent inventors who are deterred by the inordinately high cost of patent litigation. Voluntary arbitration of patent disputes has been frequently suggested as a possible solution, but various judicial pronouncements appear to preclude using arbitration of patent validity and infringement issues without statutory authority. Early cases turned on a technical point regarding the scope of the commerce clause of the Constitution and therefore the applicability of the Arbitration Act of 1925. More recently, courts have reasoned that patent validity and infringement are of such vital public importance that private arbitration is inappropriate.

Statutorily endorsing arbitration agreements would assure that parties to patent disputes could use arbitration without the possibility of having to reargue the dispute in court. Such a change would not only improve the patent system and encourage innovation, but also would help relieve the case load burden in the federal courts.

## **Protection of Computer Software**

### **RECOMMENDATION 34**

*Amend the copyright laws to grant software authors protection under trade secret and copyright laws simultaneously.*

### **RECOMMENDATION 35**

*Add criminal penalties to the copyright laws for computer program piracy and counterfeiting.*

### **RECOMMENDATION 36**

*Revise the copyright laws so that an author can copyright a detailed description of the software as well as the software program itself.*

The computer software field is one of the most rapidly growing, profitable, and potentially significant contributors to productivity growth for U.S. products and industries. Protection of individual property rights in computer software is essential to assuring the unimpeded development of computer software. Better protection of authors' rights in their software will provide a stronger incentive to develop new software and disseminate it more widely.

With the continuing growth of the use of personal and small business computers, there is a corresponding increase in the need for better computer software. The great bulk of computer software for smaller computers is written by individual authors or small software enterprises whose only incentive is the revenue from the sale of their products. Strengthening software property rights will improve the incentive for further development and will make dissemination more profitable.

Protecting intellectual property under trade secret, copyright or patent statutes is well established, but provides only limited protection for the authors. Trade secret protection may be lost after a few hundred sales, or if the author obtains patent protection or seeks copyright registration. Patents are expensive and do not apply to mathematical algorithms.

Copyrights protect the expression but not the substance of a program. As computers become smaller and are used more widely, trade secret protection will dwindle further because secrets are difficult to maintain when hundreds or thousands of copies exist.

The Committee supports provisions to guarantee that the copyright notice of a program would not constitute publication in a way that would forfeit trade secret protection, and which would permit confidential deposit of a copywritten program so that trade secrets are not revealed.

The provisions in current copyright laws for damage suits for infringement do not provide a sufficient remedy for computer software authors. Damage suits are costly and time consuming and may not dissuade those who are inclined to infringe. The Committee believes that providing for criminal penalties would strengthen the disincentives for copyright infringement.

Extending copyright protection to prevent copies that are logically the same, but which have a different physical appearance, would protect both the form and the expression of the software. This treatment would be analogous to that extended to musical compositions. It would prevent line by line transposition of a program from one language to another, just as a musical composition is protected against transposition to a different key. This would not prevent the independent creation of a similar program nor would it protect the idea of a program versus its expression.

The Committee believes that increasing the protection of computer software in these areas will not inhibit its creation and dissemination, but rather will assure better protection of the author's interest and thus greater incentives for development and dissemination. Without better protection, there will be less software developed and disseminated and the opportunity for better use of productivity enhancing technology will be lost.

### **National Medal for Productivity Achievement**

#### **RECOMMENDATION 37**

*Establish a National Medal for Productivity Achievement that the President would award annually for significant productivity accomplishments by organizations.*

Currently, there is no national recognition for the outstanding contributions of organizations to increasing productivity in the United States. The Committee believes that recognizing extraordinary productivity achievement will stimulate interest in striving for productivity growth, as similar awards have done in other areas: the

National Medal of Science awards a Presidential citation to individuals for their outstanding contribution in engineering and sciences; the National Technology Medal provides Presidential recognition to individuals or companies for exceptional contributions to the promotion of technology; the Defense Department "E" Awards have been successful in recognizing meritorious performance among Defense firms; the Department of Commerce Export Awards have generated competition among U.S. companies for recognition of excellence in exporting.

The use of similar awards in other countries also has been successful. The Deming Medal Award to Japanese companies has been credited as a significant influence in stimulating a high quality of Japanese products. In Great Britain, a Royal Commission concluded that the Queen's Award for Technological Achievement had been a highly effective stimulant for promoting management excellence.

Accordingly, the Committee believes that the achievement of exceptionally high levels of productivity growth by United States organizations should be recognized nationally. A National Medal for Productivity Achievement would lend prestige and distinction to the receiving organization and at the same time would promote the awareness and the importance of productivity in advancing the standard of living in the United States.

The criteria and rules for awarding the National Medal for Productivity Achievement, as well as the actual selection of the candidates to receive the award, should be governed by a national commission. After such a commission is appointed, the role of the federal government largely would be ceremonial and administrative. The President would make the awards and in doing so lend the prestige of his office and signal the importance he attaches to productivity as a matter of critical economic concern.

### **Math, Science and Engineering Education**

#### **RECOMMENDATION 38**

*Establish Presidential science and mathematics teaching awards (certificates and cash) for demonstrated excellence in science and math teaching at the secondary school level.*

#### **RECOMMENDATION 39**

*Provide joint Federal, State and local government and private sector support for continued training of secondary school math and science teachers.*

#### **RECOMMENDATION 40**

*Provide incentive awards (certificates and cash) to young university science and engineering faculty to encourage career commitments to university research and teaching.*

#### **RECOMMENDATION 41**

*From existing Federal science and engineering agency appropriations, fund 500 graduate fellowships and provide \$50 million in matching funds for research and graduate training in manufacturing engineering.*

Many of the most promising fields for future economic, productivity, and employment growth have strong scientific and technological components. Scientific and technological literacy, and the ability to use mathematical tools in problem solving, are prerequisites even for many nontechnical jobs. Moreover, they are essential for the future productivity growth of our economy. This issue has received attention from others, national scientific and technical organizations, but it is also critically important to improving productivity.

Among the most pressing concerns are the shortage of qualified science and mathematics teachers and an inadequate supply of scientific and technical manpower for certain key, high technology industries. This results from systematic problems in both secondary and university education programs; there are too few well qualified pre-college teachers of science and mathematics and too few university level engineering and science faculty members.

The nation's pre-college education system is having difficulties in attracting and retaining qualified science and math teachers. Half of all teachers newly hired to teach secondary science and mathematics are uncertified to teach these subjects. One third of U.S. high schools do not offer sufficient mathematics to prepare graduates for engineering schools. Only about one sixth of high school graduates have taken junior and senior level courses in science and mathematics, and, as a result, there has been a steady decline over the last fifteen years in the skills and knowledge, as measured by national standardized tests, in these subject areas.

At the university level there is evidence that enrollment in some areas of engineering and science is limited by the unavailability of teaching faculty. There is no apparent shortage of student interest in science and engineering, but rather a shortage of qualified instructors. Factors such as non-competitive salaries, large teaching loads and the lack of the latest research instrumentation and facilities make it difficult for universities to compete with the private sector for technically competent talent.

To meet the growing scientific and engineering manpower shortage in the United States and to maintain a steady increase in productivity, these problems should be addressed at both the high school and university levels. In any such effort, private sector participation is important to assure effectiveness and also to ease federal budget pressures. The Committee believes that a Presidential Science and Mathematics Teaching Award will help recognize the outstanding efforts of many high school teachers, and will permit those who are selected to use their cash award in their own schools to further their work. The Committee believes that such an award provides an appropriate incentive for excellence without substantial expenditures.

In addition to recognizing the outstanding achievements that exist among math and science faculty in our secondary schools, the Committee also recognizes that our schools need assistance in developing and maintaining subject matter competent science and mathematics teachers. Together, the federal and state and local governments and the private sector jointly can support training programs to meet this objective.

Colleges and universities should be responsible for developing and implementing these training programs, with government and private sector organizations providing the funding. In some cases, the private sector also may be able to provide skilled instructors for the teaching programs. Participating teachers should be selected from among candidates nominated by state and local school authorities and should participate for credit in the university programs designed to improve their subject matter competence.

At the university level, a series of Presidential awards for excellence in research in engineering and science fields would be an important and useful step in addressing the scientific manpower shortage problem. Relieving other constraints to maintaining adequate science and engineering faculty will require additional action and study by others. A Presidential award will provide immediate recognition of the problem and a constructive incentive for making a commitment to academia.

The faculty members in scientific and engineering fields would be selected on the basis of the quality and excellence of their research and their commitment to an academic career. The Committee specifically would encourage awards in the fields of engineering and science that have the greatest potential for contribution to productivity growth. That judgment should be made in consultation with experts from the private sector and universities, but exemplary areas would include manufacturing engineering, materials and computer sciences.

In addition to its general concern about engineering education, the Committee also believes that present engineering curricula do not

adequately teach engineers to design products for inexpensive, quality, mass production.

For the past several decades, U.S. engineering education has emphasized preparation for careers in research and development. Areas vital to the achievement of higher productivity and higher quality, low cost products, such as design for manufacturing, process technology and design and production automation, have received less attention.

The federal government can play a vital, catalytic role in meeting this productivity challenge by stimulating universities to focus on manufacturing systems, technology and education. The Committee believes that in obtaining matching funds universities also will work more closely with industries. Engineering schools need industry involvement to assure relevant training for manufacturing engineering students. At the same time, the private sector should work more closely with educational institutions to communicate its needs.

## **Cooperative Research and Development**

### **RECOMMENDATION 42**

*Review current antitrust laws and practices to clarify their application to cooperative research and development. In addition, the Department of Justice should revise or expand its business review procedures to permit a continuing dialogue between Department and corporate officials on specific cooperative ventures, especially those that are oriented to production.*

Recognizing the key role that cooperative research activities currently play in the international marketplace and the greatly expanded use of such efforts by some countries, the Committee believes that the United States government should review its own activities to assure that they do not impede the competitive or cooperative efforts of U.S. ventures. Without adopting interventionist measures, the federal government can take additional steps to facilitate cooperative research and development and thereby remove impediments to the productivity growth and international competitiveness of American industry.

Industry representatives have contended that government antitrust policies impose barriers to cooperative research ventures. Department of Justice officials point out that of the 21 joint research ventures presented for approval in the last 12 years, only two received an unfavorable response, they declined to rule on one, and they never have prosecuted where a favorable letter of intent has been issued. In

addition, the Justice Department issued an "Antitrust Guide Concerning Research and Joint Ventures" in 1980 to clarify its position.

Nevertheless, industry representatives continue to maintain that rules defining legitimate joint R&D ventures are unclear; they claim that the specific antitrust limits of acceptable conduct under cooperative R&D arrangements are vague and uncertain. Antitrust officials counter that industry has not tested the limits sufficiently to elicit appropriate clarification, adding that industry is using antitrust as an excuse for inaction. Whatever the merit of these conflicting positions, the fact remains that a strong divergence of views exists. Accordingly, the Committee believes that government and business officials should reexamine these issues jointly.

A key concern is the extent to which our antitrust laws have remained compatible with the determinants of competition within a much changed international economic environment. Foreign firms now present a formidable challenge in high technology industries and foreign governments support their industries with a variety of measures. Seldom do foreign governments permit their antitrust policies to impede collaborative efforts in high technology sectors identified as essential to the achievement of national economic goals. Many foreign firms, encouraged by their home governments, define their relevant markets in global, not just national, terms rather than as national markets. In view of this, the Committee believes that a review of our own antitrust laws and practices is necessary to assure that they do not unnecessarily impede collaborative R&D among American companies and to make any revisions necessary to foster such efforts.

### **Research and Development Tax Incentives**

#### **RECOMMENDATION 43**

*Provide guidelines on the use of Limited Research Partnerships for cooperative R&D and information assistance to organizations seeking to establish such partnerships. In addition, the Treasury and Commerce Departments should evaluate the impact of the incremental R&D tax credit and possible modifications to it that would maximize those R&D investments most likely to contribute to productivity improvement.*

Tax incentives can contribute to an environment that stimulates greater private sector funding of research and development. While it is not clear what impact the tax incentives developed during 1981 and 1982 have had on cooperative research and development ventures, limited research partnerships (LRP) appear potentially attractive under

the new tax incentives that offer opportunities for funding cooperative R&D, especially R&D designed to produce specific new products.

Although these partnership ventures have grown significantly over the past several years, there seems to be a general lack of knowledge about how to take advantage of the new tax incentives for such ventures. Definitive Internal Revenue Service guidelines on LRP tax revisions are not available, and the IRS may question some current LRP tax practices thereby jeopardizing incentives applicable to legitimate LRPs. Accordingly, the Committee believes that the government should act promptly to set guidelines for the use of tax provisions by LRPs to assure the continued and legitimate use of LRPs in cooperative research and development funding.

Although there has been only limited data to assess the impact of the Incremental Research and Development Tax Credit enacted in 1981, the Committee believes that it may be possible to improve its current provisions in certain respects. The upper limit placed on increase in R&D expenditures subject to the credit significantly limits the availability of the credit for increased R&D expenditures. Therefore, firms may be discouraged from making large increases even when necessary to achieve a critical minimum research effort. Moreover, it is not clear that the current credit actually encourages R&D expenditures. Primarily, it may reward those who would have undertaken the research anyway.

While the Committee does not recommend specific changes to the current incremental R&D tax credit provisions, it believes that the credit could be improved in ways that would maximize private R&D investments more likely to contribute to productivity improvement. Accordingly, it recommends that the Departments of the Treasury and Commerce evaluate the experience under the credit with a view to developing recommended changes. In particular, the Committee believes that greater attention should be paid to the service sector and other non-manufacturing industries and specifically that the tax credits should be extended, as appropriate, to those industries.

## **Service Sector and Other Non-Manufacturing Industry Research**

### **RECOMMENDATION 44**

*Direct the Treasury Department to develop legislation and regulations to extend the definition of "qualified research" to include non-manufacturing sector expenditures on productivity enhancing research, development, and investment for activities such as testing for quality control; efficiency and management surveys; and alternative management and marketing techniques.*

## RECOMMENDATION 45

*Allocate a greater share of existing federal research funds for improving productivity to service and other non-manufacturing sectors of the economy.*

The service sector has grown faster and created more employment opportunities than any other segment in the economy. During the 1970's, approximately 80 percent of all jobs created in the private sector were in services. In January 1982, 72 percent of the labor force was engaged in producing services. As our economy depends more on non-manufacturing industries and especially on those industries where market demand is relatively insensitive to price increases, their productivity growth will become even more important to the economy.

Although productivity growth in the service sector has lagged behind other sectors of the economy, there has been only a relatively small allocation of federal resources to improving service sector productivity. Accordingly, the Committee believes that there are two areas in which government action could provide a significant stimulus.

First, the current definition of "qualified research" expenditures is limited to research and development costs in the experimental or laboratory sense. This results in a bias in the incentives favoring manufacturing over service and other non-manufacturing research activities not classified as experimental or laboratory. By adding non-manufacturing research expenditures to the research and development incremental tax credit provisions, these industries would have a parallel incentive to pursue additional productivity enhancing research. In addition, unless industries applying new technology and new techniques are permitted to treat their own expenditures to bring their own technology on line as creditable, the R&D creditable benefits may not be as fully utilized. The cost of initiating a new payment system in retail outlets, for example, may be as costly and uncertain as developing the technology of the system itself, and the reward from its use may be even more uncertain.

The research and development tax credit was enacted to overcome the reluctance of many businesses to bear the significant costs of staffing, supplies and certain computer charges in initiating or expanding research programs designed to develop and apply new technology. Under the present provision, the credit is not available for expenditures made in connection with on-site testing of new technology or productivity enhancing equipment; testing of materials or products for quality control; developing office automation alternatives; efficiency surveys or management studies; and marketing research on alternative service delivery mechanisms. Excluding these activities ignores their importance and the parallel economic benefits derived from similar type expenditures. Moreover, it ignores the

rewards for which the credit was enacted: increased productivity with cost and energy savings.

While the Committee realizes that extending the tax credit to non-manufacturing activities may have a short term adverse impact on tax revenues; over the longer term, greater growth in productivity, employment and output will restore revenues. Without a corresponding application of the benefit to R&D consumers in the non-manufacturing sectors, the full benefit of laboratory or experimental research will not be realized.

A separate problem confronting efforts to improve productivity in non-manufacturing industries is the difficult analytical challenge of measuring output and productivity in those industries. Because it is one of the fastest growing economic sectors, more research needs to be directed to the structure of service industries and how productivity growth takes place. In an expanding sector there are greater opportunities to develop and employ new technology and new techniques. How well service industries can obtain and use technology and new techniques, however, will depend on knowing more about that process. Because less is known about the relationship of capital and non-capital types of research to productivity in this sector, it is difficult to assess the impact of government incentives for capital formation or research and development to promote productivity growth in services.

The Committee believes that there is an appropriate role for the government in supporting research in productivity growth in the service sector and that the resulting information may be essential to informed and efficient economic and public policy decisions. Accordingly, it recommends giving greater priority to service and non-manufacturing sectors in allocating existing federal research funds for improving productivity.

### **Metric Conversion**

#### **RECOMMENDATION 46**

*Acknowledge the role of metric conversion in enhancing U.S. international competitiveness and productivity in certain industries and endorse unimpeded conversion on an industry-by-industry basis, justified by private sector competitive forces. Conversion should be neither mandated nor prohibited, and the Department of Commerce should provide a clearing-house service to channel reports of regulatory and legal impediments to appropriate Federal, State and local officials.*

The termination of the Metric Board and the transfer of its responsibilities at a reduced level of funding has created uncertainty about federal policy with respect to metric conversion. The Committee believes that it is in the economic interest of the United States to continue the process of voluntary conversion to metric measurements unimpeded by other than market forces.

Industrial standards play a specialized, unique and complex role in U.S. productivity, particularly where incompatibilities with requirements of overseas markets are concerned. As those sectors of our economy engaged in international trade continue to grow, metric measurement standards are becoming a more important consideration in our production and our ability to expand exports. A long range but pervasive issue is the presence of the so-called English units of measure as the basis for industrial practice in the United States. With a few exceptions, the U.S. economy exhibits greater persistence in using non-metric standards than other industrial nations, with a detrimental price impact on parts, inventory and engineering drawing conversions that impedes productivity growth.

The process of change, however, should not be mandated. The experience of other countries suggests that a mandated transition to metric standards may inhibit productivity growth as much as it helps it. The process will be most effective if it is voluntary and occurs enterprise by enterprise and sector by sector under normal market forces. In this way, the costs of conversion are minimized.

The Committee believes that the Department of Commerce should serve as a clearing-house to ensure that federal and state laws do not impede the conversion desired by individual business sectors. As it becomes aware of impediments to the metric system, it should bring those impediments to the attention of government jurisdictions responsible for the particular law or regulation. Because many of the impediments tend to result from state and local regulatory constraints, the Department should solicit the cooperation of metric coordinators and other state government officials. The Committee also believes that public education programs about the merits of long term metric conversion are an appropriate role for the private sector but does not recommend that the Department of Commerce allocate resources to this task.

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## CONCLUSION

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This is the final report of the National Productivity Advisory Committee, but it is not the last word on improving productivity in America. Each of the recommendations in this report has been presented to the Cabinet Council on Economic Affairs.

Rather than wait for a final report, the Committee adopted recommendations at quarterly meetings and transmitted them immediately to the President and the Secretary of the Treasury through the Cabinet Council on Economic Affairs. As a result, most of these recommendations were accepted by the President and adopted as new initiatives. Some have already been enacted as legislation or implemented administratively. A status report on these recommendations is found in an appendix so interested readers can review what has been accomplished and what remains to be done.

The recent White House Conference on Productivity conducted under the auspices of the Committee has served to widen the discussion of these issues and expand the number of recommendations for improving productivity. Other conferences and committees inside and outside of government will continue to generate interest and recommendations about how to respond to the increasingly important challenge of improving productivity growth in America.

The Committee appreciates those who have contributed to its work. As citizens, taxpayers, parents and neighbors, all Americans have a responsibility to work together to assure future growth in productivity. It is the pathway to higher standards of living. Productivity growth means jobs, incomes and economic growth. We remain convinced that America is responding dynamically to our productivity challenge in a way that will provide a new standard of living for all Americans.

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## EXECUTIVE ORDER 12332

### Establishment of the National Productivity Advisory Committee

By the authority vested in me as President by the Constitution of the United States of America, and in order to establish in accordance with the provisions of the Federal Advisory Committee Act, as amended (5 U.S.C. App. I), an advisory committee on strategies for increasing national productivity in the United States, it is hereby ordered as follows:

*Section 1. Establishment.* (a) There is established the National Productivity Advisory Committee. The Committee shall be composed of distinguished citizens appointed by the President, only one of whom may be a full-time officer or employee of the Federal Government.

(b) The President shall designate a Chairman from among the members of the Committee.

*Sec. 2. Functions.* (a) The Committee shall advise the President and the Secretary of the Treasury through the Cabinet Council on Economic Affairs on the Federal Government's role in achieving higher levels of national productivity and economic growth.

(b) The Committee shall advise the President, the Secretary of the Treasury and the President's Task Force on Regulatory Relief with respect to the potential impact on national productivity of Federal laws and regulations.

(c) The Committee shall advise and work closely with the Cabinet Council on Economic Affairs (composed of the Secretaries of the Treasury, State, Commerce, Labor, and Transportation, the United States Trade Representative, the Chairman

of the Council of Economic Advisers, and the Director of the Office of Management and Budget), the Assistant to the President for Policy Development, and other governmental offices the President may deem appropriate.

(d) In the performance of its advisory duties, the Committee shall conduct a continuing review and assessment of national productivity and shall advise the Secretary of the Treasury and the Cabinet Council on Economic Affairs.

*Sec. 3. Administration.* (a) The heads of Executive agencies shall, to the extent permitted by law, provide the Committee such information with respect to productivity as it may require for the purpose of carrying out its functions.

(b) Members of the Committee shall serve without compensation for their work on the Committee. However, members of the Committee who are not full-time officers or employees of the Federal Government shall be entitled to travel expenses, including per diem in lieu of subsistence, as authorized by law for persons serving intermittently in government service (5 U.S.C. 5701-5707).

(c) Any administrative support or other expenses of the Committee shall be paid, to the extent permitted by law, from funds available for the expenses of the Department of the Treasury.

(d) The Executive Secretary of the Cabinet Council on Economic Affairs shall serve as the Executive Secretary to the National Productivity Advisory Committee.

*Sec. 4. General.* (a) Notwithstanding any other Executive Order, the responsibilities of the President under the Federal Advisory Committee Act, as amended, except that of reporting annually to the Congress, which are applicable to the advisory committee established by this Order, shall be performed by the Secretary of the Treasury in accordance with guidelines and procedures

established by the Administrator of General Services.

(b) The Committee shall terminate on December 31, 1982, unless sooner extended.<sup>1</sup>

RONALD REAGAN

The White House  
November 10, 1981.

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<sup>1</sup> The Committee was extended until September 30, 1984 by Executive Order 12399, issued on December 31, 1982.

## THE NATIONAL PRODUCTIVITY ADVISORY COMMITTEE

### CHAIRMAN

William E. Simon  
Chairman  
Wesray Corporation

### EXECUTIVE SECRETARY

Roger B. Porter  
Deputy Assistant to the  
President for Policy  
Development

### MEMBERS

Lamar Alexander  
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Lewis M. Branscomb  
Vice President and Chief  
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IBM Corporation

Harold J. Buoy  
International President  
Brotherhood of Boiler Makers

Jesse M. Calhoon  
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Nicholas T. Camicia  
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Harvard University

Martin S. Feldstein<sup>1</sup>  
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Clifton C. Garvin, Jr.  
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Lewak, Greenbaum and  
Goldstein

J. Peter Grace  
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Officer  
W. R. Grace and Company

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President and Chief Executive  
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Alfred H. Kinion<sup>2</sup>  
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Hospital Corporation of America

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John J. O'Donnell<sup>3</sup>  
President  
Air Line Pilots Association

Paul H. O'Neill  
Vice President, Corporation  
Planning  
International Paper Company

Gerald L. Parsky  
Partner, Gibson, Dunn and  
Crutcher

<sup>1</sup> Chairman, Council of Economic Advisers, effective September 1982.

<sup>2</sup> Assistant Secretary for International Economic Policy, Department of Commerce, effective April 27, 1983.

<sup>3</sup> Assistant Secretary for Legislative Affairs, Department of Labor, effective July 22, 1983.

**John H. Perkins**  
*President, Continental Illinois  
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**Maurice R. Schurr**  
*International Vice President,  
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**Donald V. Seibert**  
*Chairman and Chief Executive  
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**L. William Seidman**  
*Dean, College of Business  
Arizona State University*

**Roger B. Smith**  
*Chairman and Chief Executive  
Officer  
General Motors Corporation*

**Iayne Baker Spain**  
*Executive-in-Residence  
George Washington University*

**Arnold R. Weber**  
*President  
University of Colorado*

**Appointed by President Ronald Reagan**

**November 10, 1981**

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\* President, American Red Cross, effective January 1, 1983.

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## ACKNOWLEDGEMENTS

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The Committee gratefully acknowledges the outstanding assistance of Roger B. Porter, Executive Secretary of the National Productivity Advisory Committee, and his staff, Douglas D. Anderson, Donna R. Mahon and Steven L. Skancke, in supporting its work. In addition it thanks the staff of the Departments of Agriculture, Commerce, Labor and Treasury, the White House Office of Policy Development, the Council of Economic Advisers and the Office of Personnel Management in providing background information for issues it considered. It also appreciates the valuable assistance provided by Louisa Wilcox in preparing this final report.

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## STATUS OF RECOMMENDATIONS

RECOMMENDATION	ACTION
<b>Capital Investment</b>	
1. Reduce the Federal budget deficit significantly by reducing Federal spending first and then by raising revenues in ways that will least impair incentives for working, saving and investing.	Adopted by the Cabinet Council on Economic Affairs. Endorsed by President Reagan and reemphasized in his 1983 Federal Budget Message and other public statements. Reflected in legislative and administrative proposals.
2. Replace the current income tax system with a system that would tax all incomes just once at rates not exceeding some low fixed rate and would provide for immediate expensing of all investment expenditures.	Presented to the Cabinet Council on Economic Affairs. Established Cabinet Council Working Group to develop specific policy and legislative initiatives.
3. Request that the Administration and the Congress recognize the importance of capital formation to increasing productivity and economic growth and preserve current incentives for investment. In addition, future tax code changes should not adversely affect capital formation and should not create further uncertainty about the future treatment of current investments.	Adopted by the Cabinet Council on Economic Affairs. Reemphasized in Presidential statements and reflected in Administration's legislative position on various tax proposals introduced in 1983. Further study of this recommendation is within the mandate of the Cabinet Council Working Group on Capital Formation.
4. Provide Treasury Department regulations setting forth the standards for a true lease, thereby (1) eliminating the uncertainty overhanging the leasing industry and (2) improving the IRS ability to police lease transactions; change the effective date of liberalizing TEFRA changes made to non-safe harbor "finance leases" (allowance of a fixed price purchase option and the leasing of limited use	Adopted by the Cabinet Council on Economic Affairs. Drafted regulations on standards for a true lease that are pending signature by the Commissioner of Internal Revenue.

RECOMMENDATION	ACTION
<p>property) and extend them to public utilities; and remove the finance lease restrictions that require a spreading of the investment tax credit over five years and that limit the amount of property that may be leased.</p>	
<p>5. Raise the Individual Retirement Account (IRA) ceiling for those already saving \$2,000 per year and index it to keep pace with the rate of inflation.</p>	<p>Considered by the Cabinet Council on Economic Affairs. Pending further Cabinet Council action in conjunction with other tax reforms.</p>
<p>6. Make the IRA more attractive by permitting penalty-free, but taxable, withdrawals after four years.</p>	<p>Considered by the Cabinet Council on Economic Affairs. Pending further Cabinet Council action in conjunction with other tax reforms.</p>
<p>7. Eliminate the distinction between short term and long term capital gains.</p>	<p>Considered by the Cabinet Council on Economic Affairs. Pending further Cabinet Council action in conjunction with other tax reforms.</p>
<p>8. Slow the growth of Social Security retirement and survivor benefits by limiting the inflation indexing of benefits to the excess of inflation over some minimal rate, e.g. inflation over four percent.</p>	<p>Considered by the Cabinet Council on Economic Affairs. Referred to and considered by the National Commission on Social Security Reform. Reflected conceptually in the statutory amendment to limit automatic increases in inflation indexed benefits based on the level of trust fund balances.</p>
<p>9. Extend the age at which individuals can receive full Social Security retirement benefits from 65 years to 68 years over a 12 year period by extending the retirement age three months each year. Future benefits also might be reduced by changing the formula relating monthly benefits to average lifetime earnings.</p>	<p>Considered by the Cabinet Council on Economic Affairs. Referred to and considered by the National Commission on Social Security Reform. Legislation enacted to raise the normal retirement age gradually in two phases from age 65 to 67 by the year 2027.</p>

RECOMMENDATION	ACTION
<b>Human Resources</b>	
10. Amend Section 3304 (a)(4) of the Federal Unemployment Tax Act to provide State agencies flexibility to use unemployment insurance funds in designing unemployment adjustment assistance programs to provide for "services and cash payment to stated-designated persons who encounter permanent dislocation from their jobs."	Adopted by the Cabinet Council on Economic Affairs. Approved by the President and announced in his 1983 State of the Union Address. Proposed as part of the Employment Act of 1983.
11. Make available Department of Labor technical assistance—training of State staff, techniques of program development, and on-site assistance for the initial implementation of the program.	Adopted by the Cabinet Council on Economic Affairs. Undertaken by the Department of Labor Employment and Training Administration.
12. Encourage the development and use of state and local health care coalitions.	Adopted by the Cabinet Council on Economic Affairs. Promoted by the President's Special Assistant for Private Sector Initiatives.
13. Develop nonregulatory guidelines for acceptable activities of state and local health care coalitions to constrain rising health care expenses to remove uncertainty about antitrust prohibitions governing their activities.	Adopted by the Cabinet Council on Economic Affairs. Referred to the Department of Justice.
14. Adopt a system of prospective budgeting for institutional care payments and encourage private sector institutions to do the same.	Adopted by the Cabinet Council on Economic Affairs. Enacted in 1983 Social Security amendments to apply to Medicare payments. Drafting of implementation regulations underway at Department of Health and Human Services.
15. Support further experimentation with health care benefit programs that encourage choices among workers and groups — so called cafeteria plans — and where	Adopted by the Cabinet Council on Economic Affairs. Promoted by federal health care department and agency officials in public speeches and meetings.

RECOMMENDATION	ACTION
<p>workers receive funds not expended on health care.</p>	
<p>16. Encourage, facilitate, and assist the formation and operation of voluntary employee-management committees and councils at the sectoral, industry, state, community, firm and operating unit level. In structurally distressed sectors or localities, governments should recommend and assist labor-management groups to seek long-term adaptation and solutions to structural problems. The Department of Labor and the Federal Mediation and Conciliation Service should continue to provide information and research services to help cooperative committees. Government should encourage formation of joint committees to help develop long-term research and development programs for industries that have no systematic research and development programs to enhance their international competitiveness.</p>	<p>Adopted by the Cabinet Council on Economic Affairs. Reflected in the mandate and continuing operations of the Department of Labor, Labor Management Services Administration. Endorsed in speeches by the President and Cabinet officials.</p>
<p>17. Examine alternatives for encouraging a continuing dialogue between labor, management and government at a national level on issues related to productivity, product quality and quality of working life.</p>	<p>Adopted by the Cabinet Council on Commerce and Trade. Evidenced in continuing dialogue among leaders of labor, business and government on a wide range of national and international issues, especially through the establishment of special advisory councils.</p>
<p><b>Role of Government in the Economy</b></p>	
<p>18. Maintain Clean Air Act passenger car emission standards at 1980 levels to mitigate the significant negative productivity impact of</p>	<p>Adopted by the Cabinet Council on Economic Affairs. Embodied in the Administration's guiding principles sent to the Congress. Accepted by</p>

RECOMMENDATION	ACTION
the 1981 and 1984 emission standards.	the House Energy Committee, but final Congressional action pending.
19. Eliminate regulatory decision-making based on technological requirements and end the discrimination against new plants created by the new source performance standards.	Considered by the Cabinet Council on Economic Affairs and the Cabinet Council on Natural Resources and the Environment. Adopted and supported by the Administration as an ongoing effort to increase efficiency in government regulations. No Congressional action taken.
20. Review the National Ambient Air Quality Standards (NAAQS) setting process to simplify it and assure that the compliance requirements are set to approximate more closely the time periods and weather cycles actually encountered in production.	Considered by the Cabinet Council on Economic Affairs and the Cabinet Council on Natural Resources and the Environment. Adopted and supported by the Administration as an ongoing effort to increase efficiency in government regulations. No Congressional action taken.
21. Amend the Clean Air Act to include consideration of economic and welfare costs in developing secondary NAAQS.	Considered by the Cabinet Council on Economic Affairs and the Cabinet Council on Natural Resources and the Environment. Adopted and supported by the Administration as an ongoing effort to increase efficiency in government regulations. No Congressional action taken.
22. Recognize the EPA Emission Trading Policy Statement of April 7, 1982 as an important first step toward developing a flexible and efficient control system.	Considered by the Cabinet Council on Economic Affairs and the Cabinet Council on Natural Resources and the Environment. Adopted and supported by the Administration as an ongoing effort to increase efficiency in government regulations. EPA emissions trading policy concept overturned by the District of Columbia Circuit Court of Appeals. Department of Justice appealed, the Supreme Court granted the request, and the case is pending.

RECOMMENDATION	ACTION
23. Expand the EPA Emissions Trading Policy Statement into a full Transferable Discharge Permit (TDP) system for nitrous oxides and volatile organic compounds and use it to replace the current equipment based standards now dominating regulation. Further, use this TDP system as the basis for a system of market incentives of pollution control.	Considered by the Cabinet Council on Economic Affairs and the Cabinet Council on Natural Resources and the Environment. Viewed by the Administration as an opportunity to increase efficiency in government regulation of the environment. Requires legislative action. EPA currently is under Court order to issue technological standards to remaining industrial source categories.
24. Expand thrift institution lending and investment authority to improve their profitability and productivity and to increase the productivity of the industries that rely on funds from thrift institutions.	Adopted by the Cabinet Council on Economic Affairs. Proposed for legislative action and enacted on October 15, 1982 in PL 97-320, the Garn-St Germain Depository Institutions Act.
25. Accelerate The Depository Institutions Deregulation Committee deregulation of interest rates so commercial banking and thrift institutions can compete more efficiently for short term loanable funds.	Adopted by the Cabinet Council on Economic Affairs. Implemented by the Depository Institutions Deregulation Committee in the new, accelerated deregulation schedule adopted in 1983.
26. Exempt from branching restrictions, bank-owned or leased customer transaction terminals and permit less restricted use of productivity enhancing technology in banking.	Adopted by the Cabinet Council on Economic Affairs. Referred to the Vice President's Task Group on Regulation of Financial Services. Being considered in conjunction with other legislative proposals. Also, pending further review with proposals to remove restrictions on interstate banking activities.
27. Request the Department of Justice to examine the unique situation presented by shared electronic fund transfer (EFT) systems and provide guidelines on the application of antitrust laws.	Adopted by the Cabinet Council on Economic Affairs. Referred to the Justice Department for further review, although current proliferation of shared EFT systems indicates industry willingness to proceed without formal clarification.

RECOMMENDATION	ACTION
28. Provide alternate federal-state examination of State chartered federally insured commercial banks rather than concurrent examinations to free banks and government audit resources for more productive uses.	Adopted by the Cabinet Council on Economic Affairs. Referred to the Vice President's Task Group on Regulation of Financial Services. Remedial legislative proposals currently are under formulation.
29. Amend the Immigration and Nationality Act to permit waivers of visa requirements for nationals of up to eight countries for an experimental three year period for visitors intending to stay no longer than ninety days in the United States who have nonrefundable airline tickets.	Adopted by the Cabinet Council on Economic Affairs. Proposed legislation pending action by the Congress.
<b>Research, Development and Technological Innovation</b>	
30. Encourage the Administration's efforts to modernize the Patent and Trademark Office and support financing the modernization through user fees comparable with fees charged in other countries.	Adopted by the Cabinet Council on Economic Affairs. Proposed legislation was enacted August 27, 1982 in PL 97-247.
31. Restore part of expired patent terms to applicants whose patents are eroded by federal pre-market regulatory review to enhance incentives for research and innovation.	Adopted by the Cabinet Council on Economic Affairs. Proposed legislation pending action by the Congress.
32. Establish a uniform patent policy across all government agencies that would permit all government contractors, except in narrowly defined areas, to retain commercial rights to their inventions to provide greater incentives for developing and using these inventions.	Adopted by the Cabinet Council on Economic Affairs. Proposed legislation was not adopted by the Congress. Issued Executive Order establishing policy except where prohibited by legislation.

RECOMMENDATION	ACTION
33. Enact new legislation to permit voluntary arbitration of patent validity and infringement disputes.	Adopted by the Cabinet Council on Economic Affairs. Proposed legislation was enacted August 27, 1982 in PL 97-247.
34. Amend the copyright laws to grant computer software authors protection under trade secret and copyright laws simultaneously.	Adopted by the Cabinet Council on Economic Affairs. Specific legislative proposals being adopted by the Administration.
35. Add criminal penalties to copyright laws for computer program piracy and counterfeiting.	Adopted by the Cabinet Council on Economic Affairs. Specific legislative proposals being adopted by the Administration.
36. Revise copyright laws so that a computer software author can copyright a detailed description of the software as well as the software program itself.	Adopted by the Cabinet Council on Economic Affairs. Specific legislative proposals being adopted by the Administration.
37. Establish a National Medal for Productivity Achievement that the President would award annually for significant productivity accomplishments by organizations.	Considered by the Cabinet Council on Economic Affairs. Pending further review and final action.
38. Establish Presidential science and mathematics teaching awards (certificates and cash) for demonstrated excellence in science and math teaching at the secondary school level.	Adopted by the Cabinet Council on Economic Affairs. Established Presidential Awards for Excellence in Science and Mathematics in January 1983. First award made on October 19, 1983.
39. Provide joint federal, state and local government and private sector support for continuing training of secondary school math and science teachers.	Adopted by the Cabinet Council on Economic Affairs. Incorporated in proposed legislation, S. 1285.
40. Provide incentive awards (certificates and cash) to young university science and engineering faculty to make a	Adopted by the Cabinet Council on Economic Affairs. Established Presidential Young Investigators Award on March 18, 1983. First

RECOMMENDATION	ACTION
career commitment to university research and teaching.	award will be presented in February 1984.
41. Federal science and engineering agencies should fund 500 graduate fellowships and provide \$50 million for research and graduate training in manufacturing engineering in universities and institutions that match this funding one-for-one with private sources.	Adopted by the Cabinet Council on Economic Affairs. Proposed legislation.
42. Review current antitrust laws and practices to clarify their application to cooperative research and development. In addition, the Department of Justice should revise or expand its business review procedures to permit a continuing dialogue between Justice and corporate officials on specific cooperative ventures, especially those that are oriented to production.	Adopted by the Cabinet Council on Economic Affairs. Proposed National Productivity and Innovation Act of 1983. Introduced by the President on September 12, 1983.
43. Provide Internal Revenue Service guidelines on the use of Limited Research Partnerships for cooperative R&D and provide information assistance to organizations seeking to establish such partnerships. In addition, the Treasury and Commerce Departments should evaluate the impact of the incremental R&D tax credit and possible modifications to it that would maximize R&D investments more likely to contribute to productivity improvement.	Adopted by the Cabinet Council on Economic Affairs. Provided guidelines and promotional material on research and development limited partnerships prepared by the Departments of Commerce and Treasury. Testified in favor of extending the Incremental Research and Development Tax Credit. Considering alternative proposals to improve the efficiency and effectiveness of research and development tax incentives. Proposed new definition of tax creditable research and experimentation activities.
44. Direct the Treasury Department to develop legislation and	Adopted by the Cabinet Council on Economic Affairs. Considering

RECOMMENDATION	ACTION
<p>regulations to extend the definition of "qualified research" to include non-manufacturing sector expenditures on productivity enhancing research, development, and investment for activities such as testing for quality control, efficiency and management surveys, and alternative management and marketing techniques.</p>	<p>alternative proposals to improve the efficiency and effectiveness of research and development tax incentives.</p>
<p>45. Allocate a greater share of existing federal research funds for improving productivity to service and other non-manufacturing sectors of the economy.</p>	<p>Adopted by the Cabinet Council on Economic Affairs. Referred recommendation to departments and agencies responsible for evaluating research proposals. Focused on service and nonmanufacturing activities in expanded federal research areas.</p>
<p>46. Acknowledge the role of metric conversion in enhancing U.S. international competitiveness and productivity in certain industries and endorse unimpeded conversion on an industry-by-industry basis, justified by private sector competitive forces. Conversion should be neither mandated nor prohibited, and the Department of Commerce should provide a clearing-house service to channel reports of regulatory and legal impediments to appropriate Federal, State and local officials.</p>	<p>Adopted by the Cabinet Council on Economic Affairs. Acknowledged and accepted by the Secretary of Commerce as appropriate federal policy on metric conversion.</p>

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END

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